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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,600

11/19/2003

Shigetomo Tsujihata

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

10/02/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,600	<b>Applicant(s)</b> TSUJIHATA ET AL.	
	<b>Examiner</b> Pamela R. Schwartz	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. The prior grounds of rejection have been overcome.
2. Claims 1 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al. (6,669,536). Katoh et al. disclose an ink jet recording sheet having an ink absorptive layer of inorganic particles, polyvinyl alcohol, cationic polymers, and zirconium or aluminum compounds. The zirconium and aluminum compounds are known in the art to immobilize dyes, i.e. to mordant dyes (see col. 1, lines 56-59). In addition to these inorganic compounds, inorganic particles such as silica or alumina are included (see col. 11, lines 21-30). Poly vinyl alcohol is also included (col. 12, lines 44-45). Other polymers such as gelatin may be present (col. 13, lines 39-49). The quaternary ammonium salt including repeating unit of the cationic polymer may be as described at col. 6, line 36 to col. 7, lines 22, or more specifically in col. 15 as CM-8 or CM-9. Styrene may be a comonomer (col. 17, lines 4-23). The reference also discloses cross-linking at col. 5, lines 36-42. The reference discloses applying the cross-linking agent in a separate coating and adjusting the pH at col. 25, line 35 to col. 27, line 7. Based upon this disclosure of the monomers of the cationic polymer and the other materials of the layer, it would have been obvious to form a layer including the cationic polymer as well as the inorganic pigment, polyvinyl alcohol and other materials and to apply the materials to the medium in order to successfully coat the ink receiving layer. In addition, the I/O values are considered to inherently result from the monomers used to form the polymer. Since the polymers of the reference may be the same as those instantly claimed, when the polymers are the same, the I/O values will also be the same.

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3. Claims 1, 2 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda et al. (4,944,988). This reference discloses an ink jet recording sheet having a coating layer containing a cationic polymer of at least one cationic comonomer. The monomers are disclosed at col. 4, line 46 to col. 7, line 56. See formula II in col. 4. At col. 6, it is disclosed that styrene may be a comonomer (lines 51-58). The coating may also contain binding polymers such as polyvinyl alcohol, pigment such as silica and other materials that will act as mordants in the layer (see col. 8, lines 40-47, col. 9, lines 11-20 and 27-35). The reference does not specifically disclose cross-linking the layer, nor does it discuss I/O values. With respect to cross-linking, it is well known in the art and would have been obvious to one of ordinary skill in the art to crosslink the layer in order to make the medium more water resistant. With respect to I/O values, since these values are determined by determination of the copolymer and it would have been obvious to one of ordinary skill in the art from the reference disclosure concerning monomers and ratios of monomers to obtain a copolymer as recited by claim 1, such a copolymer will inherently have an I/O value as instantly claimed.

4. Applicant's arguments with respect to claims 1, 3 and 6-10 have been considered but are moot in view of the new ground(s) of rejection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz  
September 29, 2008

/Pamela R. Schwartz/  
Primary Examiner, Art Unit 1794